

AMENDMENTS TO THE CLAIMS

1-19. (Canceled).

20. (New) An imaging system for detecting an object on or below a water surface, the imaging system comprising:

a multispectral optical sensor that separates a received unprocessed image of the object into a first unprocessed image and a second unprocessed image that is spatially and temporally registered with the first unprocessed image, and that generates a first signal corresponding to the first unprocessed image and a second signal corresponding to the second unprocessed image;

a processing unit that receives said signals and manipulates said signals by taking a weighted difference of said signals to generate a third signal corresponding to a processed image; and

a monitor that receives the third signal and displays the processed image;

wherein the processing unit is operably connected to the multispectral optical sensor and to the monitor; and

wherein the first unprocessed image is in a first frequency bandwidth and the second unprocessed image is in a second frequency bandwidth that is less water-penetrating than the first frequency bandwidth.

21. (New) The imaging system of claim 20, wherein said multispectral optical sensor is a vertically stacked photodiode array.

22. (New) The imaging system of claim 20, wherein said processing unit further manipulates said first and second signals by performing a fixed pattern correction.

23. (New) The imaging system of claim 20, wherein said processing unit further manipulates said first and second signals by performing an image integration function.

24. (New) The imaging system of claim 20, wherein said processing unit further manipulates said first and second signals by performing a sensor linearity correction.

25. (New) The imaging system of claim 20, wherein said processing unit manipulates said third signal by performing a demeaning filter function.